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# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| In re application of: **Manning** | § | Group Art Unit: **3627** |
| | § | |
| Serial No.: **09/595,937** | § | Examiner: **Gort, Elaine L.** |
| | § | |
| Filed: **June 16, 2000** | § | Attorney Docket No.: **11440RRUS02U** |
| | § | |

For: **Method and Apparatus for Merging Accounting Records to Minimize Overhead**

**35527**

PATENT TRADEMARK OFFICE
CUSTOMER NUMBER

## TRANSMITTAL DOCUMENT

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:
ENCLOSED HEREWITH:

• Appellant's Brief (in triplicate) (37 C.F.R. 1.192); and
• Our return postcard.

A fee of $330.00 is required for filing an Appellant's Brief. Please charge this fee to Deposit Account No. 50-0392. No additional fees are believed to be necessary. If, however, any additional fees are required, I authorize the Commissioner to charge these fees which may be required to Deposit Account No. 50-0392. No extension of time is believed to be necessary. If, however, an extension of time is required, the extension is requested, and I authorize the Commissioner to charge any fees for this extension to Deposit Account No. 50-0392.

Respectfully submitted,

_Duke W. Yee_____
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*Registration No. 34,285*
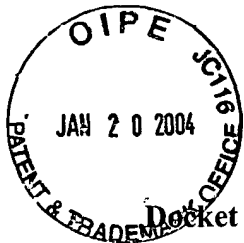CARSTENS, YEE & CAHOON, LLP
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Docket No. 11440RRUS02U

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| Minimize Overhead | § | |

**Commissioner for Patents**
**P.O. Box 1450**
**Alexandria, VA 22313-1450**

**ATTENTION: Board of Patent Appeals
and Interferences**

## APPELLANT'S BRIEF (37 C.F.R. 1.192)

This brief is in furtherance of the Notice of Appeal, filed in this case on November 13, 2003.

The fees required under § 1.17(c), and any required petition for extension of time for filing this brief and fees therefore, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief is transmitted in triplicate. (37 C.F.R. 1.192(a))

## REAL PARTIES IN INTEREST

The real party in interest in this appeal is the following party: Nortel Networks Limited.

## RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interference's that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no such appeals or interference's.

## STATUS OF CLAIMS

### A. TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims in the application are: 1-18, 43 and 44.

### B. STATUS OF ALL THE CLAIMS IN APPLICATION

1. Claims canceled: 19-42
2. Claims withdrawn from consideration but not canceled: NONE
3. Claims pending: 1-18, 43 and 44
4. Claims allowed: NONE
5. Claims rejected: 1-18, 43 and 44

### C. CLAIMS ON APPEAL

The claims on appeal are: 1-18, 43 and 44.

## STATUS OF AMENDMENTS

A response to final Office action was filed 10/10/03. The advisory action of 11/03/03 states that for purposes of Appeal, the amendment will be entered.

## SUMMARY OF INVENTION

The present invention provides a method and apparatus for merging accounting records to minimize overhead. (Specification, page 2, lines 4-5.) The method and apparatus are capable of accumulating accounting information for short data bursts and for active traffic channel transmissions. (Specification, page 2, lines 7-9.) Accounting information for a plurality of short data bursts and/or active traffic channel transmissions are accumulated, reducing the number of messages sent to an accounting server and eliminating race conditions that may be encountered by sequential short data bursts. (Specification, page 2, lines 11-15.)

## ISSUES

The issues on appeal are as follows:

Whether claims 1-18, and 43-44 are unpatentable as being anticipated by 3G Packet Data Accounting Requirements; and whether claims 1-18 are unpatentable as being obvious over Feder et al. (USPN 6512754) in view of Examiner's official notice.

## GROUPING OF CLAIMS

The claims on appeal do not stand or fall in a single group, but are grouped into the following groups for the reasons set forth in the Argument section, below:

Claims 1-11, 13, 15-18, 43 and 44 form group A; claim 12 forms group B; and claim 14 forms group C.

# ARGUMENT

The final Office action rejects claims 1-18, 43, and 44 as anticipated by 3G Packet Data Accounting Requirements under 25 USC 102, and claims 1-18, 43, and 44 as obvious over Feder et al. in view of Examiner's official notice. These rejections are respectfully traversed.

**I. The 3G reference fails to teach or suggest accumulating accounting information at a serving node wherein only one start and one stop record are sent to the accounting server for a plurality of short data burst transmissions. (Groups A, B, and C).**

In rejecting the claims over the 3G reference, the Office action states:

> 3G Packet Data Accounting Requirements discloses the claimed method of optimizing accounting records which includes detecting a communication link between mobile terminal and host in a packet data network (for example system detects internet access by user) and accumulates, at a packet data serving node disposed between the mobile terminal and the packet data network (data transmitted to PDSN), accounting information relating to a wireless communication network serving the mobile terminal (remote dial-in user service) and the packet data network, the accounting information being used by service providers to generate billing data to minimize the frequency of producing accounting records by the packet data serving node (RADIUS; transmitted to AAA Server, accounting server): wherein only one start record and only one stop record are sent to the accounting server for a plurality of short data burst transmissions (for example a short data burst as shown in Table 2 and page 4 line 4 identify the record with a start and stop record, a burst inherently includes the collection of information and the transfer of a block of data all at one time without a break, where the stop record includes the number of short data bursts, data burst octets and the octet count for the plurality of short data burst transmission , airlink incorporates mobile station to base station communication over a radio spectrum such as the communication between the RN and PDSN shown in figure 2); wherein the accounting information is accumulated over a series of short data bursts and over a series of active traffic channel transmissions (accounting information is communicated via active traffic channels and short data bursts are accumulated/merged at the PDSN); and where the number of octets sent to the mobile terminal and number of octets received from the mobile terminal are in the form of short data bursts (data sent with short data bursts, see table 2).

Claim 1 is reproduced for purposes of discussion:

1.     A method to optimize accounting records in a wireless/packet data network, comprising the steps of:
        detecting that a communication link has been established between a mobile
terminal and a host in a packet data network; and
        accumulating, at a packet data serving node disposed between the mobile terminal and the packet data network, accounting information relating to a wireless communication network serving the mobile terminal and the packet data network, the accounting information being used by service providers to generate billing data to minimize the frequency of producing accounting records by the packet data serving node;
        wherein only one start airlink record and only one stop airlink record are sent to the accounting server for a plurality of short data burst transmissions.

Regarding the 3G Packet Data Accounting Requirements reference (hereinafter 3G), Applicant respectfully submits that this reference does not appear to show the limitations of independent claim 1. Claim 1 includes the limitation, "wherein only one start airlink record and only one stop airlink record are sent to the accounting server for a plurality of short data burst transmissions." Applicant finds no such teaching in the cited reference. In fact, it is respectfully submitted that 3G teaches away from the presently claimed invention since 3G teaches that UDRs are triggered by any given short data burst (*see* Table 1, page 4 of 3G). This indicates that the PSDN of the 3G reference sends the accounting information to the accounting server at the receipt of each short data burst, and not the accumulation of a plurality of short data bursts before transmitting such accounting information (thus reducing the number of start and stop records required to be sent to the accounting server), as claimed  Absent the Examiner pointing out some teaching or incentive to implement accumulation of accounting information in a number of short data bursts and accompanying reduction of start/stop records sent, one of ordinary skill in art would not be led to modify 3G to reach the present invention when the reference is examined as a whole.

This limitation of the present claims is discussed in part in the present specification, for example, at page 19-20. This section describes the system wherein a plurality of short data bursts are accumulated for a single start and stop record.

Figure 10 illustrates a preferred embodiment of the present invention in which short data bursts (SDBs) are accumulated over an interval. As shown in Figure 10, the mobile station (MS) is initially dormant (T1). Thereafter, data is received by the data network and sent to the wireless communication network. The total number of octets received is then incremented in the accounting controller (T2). The data received is sent to the mobile station as a first short data burst. While the first short data burst is being sent, more data is received by the data network and sent to the wireless communication network. The total number of octets received is incremented in the accounting controller by the amount of the received data (T3).

A second SDB is transmitted to the MS. An airlink record identifying the transmission of the first SDB is sent by the wireless communication network to the accounting controller. The accounting controller increments the number of SDBs by 1 and the total number of SDB octets by the number of octets in the first SDB. Meanwhile, more data is being received by the data network and sent to the wireless communication network. The total number of octets received is then incremented by the number octets in the second set of received data (T4).

The third set of data is transmitted as a third SDB to the MS. An airlink record identifying the transmission of the second SDB is sent by the wireless communication network to the accounting controller. The accounting controller increments the number of SDBs by 1 and the total number of SDB octets by the number of octets in the second SDB. Meanwhile, more data is being received by the data network and sent to the wireless communication network. The total number of octets received is then incremented by the number of octets in the third set of received data (T5).

An interim timer expires (T6). This is a configurable timer the operator sets to make sure accounting data does not "sit too long" in the bridge server **150** without being sent to the accounting server **160**. This avoids the case where the bridge server **150** goes down and all unsent accounting data would be lost. With the present invention after a certain interval, the interim timer fires to make sure a snapshot of the accounting data is sent to the accounting server **160**.

The wireless communication network sends an airlink record identifying the transmission of the third SDB. The accounting controller increments the number of SDBs by 1 and the total number of SDB octets by the number of octets in the third SDB. Meanwhile, more data is being received by the data network and sent to the wireless communication network. The total number of octets received is then incremented by the number of octets in the fourth set of received data (T7).

Because the fourth set of received data meets a predetermined criteria, it is assumed that the wireless communication network activates the traffic channel for transmission to the mobile station. As a result, an active start airlink record is sent to the accounting controller. Meanwhile more data is being received in the data network for transmission to the mobile station. A start record is sent to the accounting server identifying the number of SDBs, total number of SDB octets

and the octet count. The octet count is then incremented by the number of octets received (T8).

Transmission of data to the mobile station is then over an active traffic channel until the mobile station goes dormant. At this time, an active stop airlink record is sent from the wireless communication network to the accounting controller. The accounting controller sends a stop record to the accounting server identifying the number of SDBs, total number of SDB octets and the octet count. This information is sent again since the stop record must be cumulative and contain all the information since the start record. In other words, the start record opens an accounting entry and the stop record reports all the final counts. The total number of SDBs, SDB octets and the octet count are then cleared (Tn).

Thus, with the present invention, the number of messages sent to the accounting server is minimized by accumulating short data burst information over an interval containing a plurality of short data bursts. Thus, rather than sending eight accounting messages to the accounting server in the above example, only four messages are sent, thereby reducing the number of required accounting messages to half.

[Emphasis added.]

It is respectfully submitted that the 3G packet data reference does not teach this limitation. Examiner cites the 3G reference at Table 2 and page 4 line 4, stating, "for example a short data burst as shown in Table 2 and page 4 line 4 identify the record with a start and stop record, a burst inherently includes the collection of information and the transfer of a block of data all at one time without a break, where the stop record includes the number of short data bursts, data burst octets and the octet count for the plurality of data burst transmissions...."

It is respectfully submitted that the above citation of 3G fails to teach the claimed limitations of at least claim 1. For example, Examiner states that, "a burst inherently includes a collection of information and the transfer of a block of data all at one time without a break...." However, this does not teach the claimed limitation of, "wherein only one start airlink record and only one stop airlink record are sent to the accounting server for a plurality of short data burst transmissions." Though a burst may inherently include a collection of information, the present claim claims a plurality of data bursts, not a single data burst with a collection of information.

It is respectfully submitted that the Examiner has misapplied the concept of "inherent" anticipation. Section 102 of Title 35 deals with novelty and loss of patent rights. An invention is said to be "anticipated" when it is squarely described or disclosed in a single reference as

identified from one of the categories of 35 U.S.C. § 102, commonly referred to as "prior art". Express anticipation occurs when the invention is expressly disclosed in the prior art, patent or publication. In some cases, however, when the claimed invention is not described *in haec verba*, the "doctrine of inherency" is relied on to establish anticipation. Under the principles of inherency, a claim is anticipated if a structure in the prior art necessarily functions in accordance with the limitations of a process or method claim. *In re King*, 801 F.2d 1324, 231 U.S.P.Q. 136 (Fed. Cir. 1986). A prior art reference that discloses all of a patent's claim limitations anticipates that claim even though the reference does not expressly disclose the "inventive concept" or desirable property the patentee discovered. *Verdgaal Brothers, Inc. v. Union Oil Company of California*, 814 F.2d 628, 2 U.S.P.Q.2d 1051, (Fed. Cir. 1987). It suffices that the prior art process inherently possessed at that property. *Id.* Mere possibilities or even probabilities, however, are not enough to establish inherency. The missing claimed characteristics must be a "natural result" flowing from what is disclosed. *Continental Can Co. v. Monsant Co.*, 948 F.2d 1264, 20 U.S.P.Q.2d 1746 (Fed. Cir. 1991). Unstated elements in a reference are inherent when they exist as a "matter of scientific fact". *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 7 U.S.P.Q.2d 1057 (Fed. Cir.), *cert. denied*, 488 U.S. 892 (1988) and *Hughes Aircraft Co. v. United States*, 8 U.S.P.Q.2d 1580 (Ct. Cl. 1988). Otherwise, the invention is not inherently anticipated.

For the above reasons, it is respectfully submitted that the claims of groups A, B, and C are distinguished from the cited references. Reconsideration of the claims is respectfully requested.


**II. The Feder reference fails to teach or suggest accumulating accounting information at a serving node wherein only one start and one stop record are sent to the accounting server for a plurality of short data burst transmissions. (Groups A, B, and C).**


Examiner states in the rejection, in part,

> Feder et al. discloses the claimed method of optimizing accounting records but is silent regarding the use of a plurality of short data burst transmissions using a start and stop record. Examiner takes official notice that the use of burst mode incorporating data bursts with a start and a stop record are notoriously old and well known in the art of data communications to provide high-speed, complete and efficient data transmission. It

would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the method of Feder et al. with the use of a plurality of short data bursts transmission using a start and a stop record of Examiner's Official notice, in order to provide high -speed, complete and efficient data transmission. All other claimed limitations are either disclosed or inherent.

Applicant respectfully submits that, even if burst mode incorporating a start and stop record are well known, such teaching in the art does not anticipate the presently claimed invention, nor make the presently claimed invention obvious.

Group A's claim (e.g., claim 1) limitations do not merely claim the use of short data bursts and the use of start and stop records. Instead, claim 1 claims that only one start record and only one stop record are sent to the accounting server for a plurality of short data burst transmissions. Feder does not appear to teach such a limitation, and Examiner admits on pages 4-5 of the office action that Feder "is silent regarding the use of a plurality of short data burst transmissions using a start and a stop record." Without some showing in the art wherein only one start record and one stop record are sent for a plurality of short data burst transmissions, as claimed, Applicant respectfully submits that Feder fails to teach the limitations of the present claims.

Claims 1-18, 43, and 44 are rejected over the same rationale. Therefore, since claim 1 is believed distinguished from the cited reference, it is respectfully submitted that all claims are believed distinguished.

Therefore, the rejection of claims 1-18, 43, and 44 under 35 U.S.C. § 103 has been overcome.

III.    Neither cited reference teaches or suggests accumulating accounting information over a series of short data bursts. (Group B)

Examiner cites no reference for the limitation of claim 12, namely, "wherein the accounting information is accumulated over a series of active traffic channel transmissions." Therefore, Applicant respectfully submits that Examiner has not made out a *prima facie* case for anticipation of claim 12. A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if

every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). Claim 12 is therefore believed distinguished from the cited references.
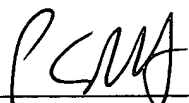
**IV. Neither cited reference teaches or suggests that the sent and received octets from a mobile terminal include octets in the form of short data bursts. (Group C)**

Examiner cites no reference for the limitations of claim 14, namely, "wherein the number of octets of data received from the mobile terminal and the number of octets sent to the mobile terminal further includes the number of octets received from the mobile terminal in the form of short data bursts and the number of octets sent to the mobile terminal in the form of short data bursts." Therefore, Applicant respectfully submits that Examiner has not made out a *prima facie* case for anticipation of claim 14.

One function of the *prima facie* burden is to require the Patent Office to set forth specific objections, which can be met by the applicant, and not just make general rejections. *In re Epstein*, 32 F.3d 1559, 31 U.S.P.Q.2D 1817, 1820 (Fed. Cir. 1994) (Plager, J., concurring). "The Examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the Examiner." *In re Oetiker*, 977 F.2d 1443, 24 U.S.P.Q.2d 1443, 1447 (Fed. Cir. 1992) (Plager, J., concurring).

Claim 14 is therefore believed distinguished from the cited references.

For the above reasons, Applicants respectfully submit that all claims of the current application are distinguished from the cited references. Favorable reconsideration of the claims is respectfully requested.

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# APPENDIX OF CLAIMS

The text of the claims involved in the appeal are:

1. (Previously Presented)   A method to optimize accounting records in a wireless/packet data network, comprising the steps of:

    detecting that a communication link has been established between a mobile terminal and a host in a packet data network; and

    accumulating, at a packet data serving node disposed between the mobile terminal and the packet data network, accounting information relating to a wireless communication network serving the mobile terminal and the packet data network, the accounting information being used by service providers to generate billing data to minimize the frequency of producing accounting records by the packet data serving node;

    wherein only one start record and only one stop record are sent to the accounting server for a plurality of short data burst transmissions.

2. (Original)   The method of claim 1, wherein the accounting information includes first accounting information obtained from one or more base station controllers in the wireless communication network and second accounting information maintained by the packet data serving node for the packet data network.

3. (Original)   The method of claim 1, further comprising:

    sending the accounting information to an accounting server based on the occurrence of a predetermined event.

4. (Original)   The method of claim 3, wherein the accounting server is a Remote Authentication Dial-In User Service (RADIUS) server.

5. (Original)   The method of claim 2, further comprising:

merging the first accounting information and the second accounting information into a usage data record (UDR).

6. (Original)  The method of claim 1, wherein accounting information relating to a wireless communication network is obtained from accounting messages sent from the wireless communication network.

7. (Original)  The method of claim 6, wherein the accounting messages sent from the wireless communication network include one or more of a connection setup airlink record, a connection release airlink record, an active start airlink record, an active stop airlink record, and a short data burst airlink record.

8. (Original)  The method of claim 3, wherein the predetermined event is receipt of a session release airlink record from the wireless communication network.

9. (Original)  The method of claim 3, wherein the predetermined event is receipt of an active stop airlink record.

10. (Original) The method of claim 3, wherein the predetermined event is receipt of a short data burst stop airlink record.

11. (Original) The method of claim 1, wherein the accounting information is accumulated over a series of short data bursts.

12. (Original) The method of claim 1, wherein the accounting information is accumulated over a series of active traffic channel transmissions.

13. (Original) The method of claim 1, wherein the accounting information includes the number of octets of data received from the mobile terminal and the number of octets sent to the mobile terminal.

14. (Original) The method of claim 13, wherein the number of octets of data received from the mobile terminal and the number of octets sent to the mobile terminal further

includes the number of octets received from the mobile terminal in the form of short data bursts and the number of octets sent to the mobile terminal in the form of short data bursts.

15. (Previously Presented) The method of claim 1, wherein the accounting information includes a plurality of short data bursts.

16. (Original) The method of claim 3, wherein the predetermined event is the expiration of an interim timer.

17. (Original) The method of claim 1, further comprising:

generating a session identifier, wherein the accounting information is accumulated based on the session identifier.

18. (Original) The method of claim 1, wherein the accounting information is associated with a session having multiple IP addresses and wherein accounting information for the wireless communication network and the packet data network are accumulated based on a session identifier and an IP address from the multiple IP addresses

19-42 (Cancelled)

43. (Previously Presented) The method of claim 1, wherein the stop record sent to the accounting server includes the number of short data bursts, the total number of short data burst octets, and the octet count for the plurality of short data burst transmissions.

44. (Previously Presented) The method of claim 1, wherein the start record is a start airlink record, and wherein the stop record is a stop airlink record.